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optionally, bacteria of the genus *Thiobacillus*, (and optionally one or more salts;

- b) contacting said fluid with the sulfidic material for a period of time sufficient to achieve leaching.

### CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, Applicants request that this be considered a petition therefore. Please charge the required fee to Deposit Account No. 14-1263.

### ADDITIONAL FEES

Please charge any further insufficiency of fees, or credit any excess to Deposit Account No. 14-1263.

### REMARKS

Claims 1-8 were pending in the application. These claims have been canceled and replaced with new claims 9-21.

New claim 9 recites a leaching process comprising the step of preparing an aqueous leaching fluid *comprising at least one carbon-containing compound, wherein the at least one carbon-containing compound is selected from the group consisting of cysteine, methionine, and homocysteine, and derivatives thereof, optionally, bacteria of the genus Thiobacillus, and optionally one or more salts...*

This language limits the leaching fluid's carbon-containing components to the recited sulfur-containing amino acids and their derivatives. Further, the claim also

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encompasses the optional addition of *Thiobacillus* cells and/or inorganic salts to the fluid. In this way, the claim encompasses a process wherein the bacteria may be added with the leaching fluid, or separately, after removing the fluid.

Most importantly, the process described in new claim 9 is clearly patentably distinct from those disclosed by the references. The compositions disclosed in the Rusin and Wenberg references are highly complex multi-component nutrient broth mixtures, possessing a wide variety of distinct carbon compounds such as proteins, carbohydrates and non-sulfur containing amino acids. In some cases, these are added in the form of crude extracts, – e.g., corn extract, yeast extract, etc.

Claims 1-8 were rejected under various statutory provisions. Each rejection is addressed below in the sequence raised in the Office Action.

#### § 112, 2nd Paragraph – Indefiniteness

It is believed that cancellation of claims 1-8 and addition of new claims 9-21 satisfactorily addresses the indefiniteness rejections.

Applicants respectfully request withdrawal of these rejections in view of the foregoing amendments.

Applicants also request withdrawal of the rejection under § 101 because the new claims are not indefinite and are clearly directed toward patentable subject matter – a process of microbial leaching of a sulfidic material.

#### § 102(b) – Anticipation

##### '624 to Rusin

Examiner alleges that claims 1-8 were clearly anticipated by USP '624 to Rusin. The Examiner generally cites to columns 9, 10, 12 and 14.

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"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP § 2131, *citing Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Rusin's method as disclosed in column 10 (i.e., her claim 1) does not resemble the claimed process as described in new claim 9 because of the differences in the leaching fluids.

In column 9, there is reference to PEGM which is a corn extract. See Table I, col. 4. This disclosure clearly includes carbon-containing compounds not within the scope of claim 9. In addition, there is no sulfur containing amino acids, or derivatives thereof, disclosed. Therefore, this reference cannot anticipate because it does not teach each claim limitation.

"The identical invention must be shown in as complete detail as is contained in the ... claim." MPEP § 2131.01, *citing Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989) (Emphasis added). In contrast to the claimed process, there is no teaching in Rusin to expressly or impliedly indicate that cysteine and methionine or their derivatives were necessary components.

It is respectfully suggested that Rusin fails both of the tests in *Suzuki* and *Verdegaal*, and accordingly cannot anticipate the claimed method.

In accordance, withdrawal of the rejection is respectfully solicited.

#### Articles of Wenberg and of Liu

Claims 7-8 were allegedly anticipated by Wenberg or Liu. These claims have been canceled. For argument sake only, new claim 17 may be taken to approximate

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canceled claim 8. Canceled claim 7 was a "use" claim, and has no counterpart among the new claims.

The Wenberg reference does not even mention bacteria (which are prokaryotes) but only discloses use of fungi (eukaryotes). He also does not disclose microbial leaching in a pH range of approximately 1-4.

Therefore, Wenberg cannot anticipate any of the new claims, and the rejection should be withdrawn.

Liu only discloses chemical leaching – no microorganisms are disclosed whatsoever, and specifically, no bacteria are disclosed. Further, there is no teaching of any concentration range of sulfur containing amino acids, nor is there any teaching of their desirability in the microbial leaching process.


In addition, Liu's leaching fluid has several carbon-containing compounds beyond the scope of claim 9. See legend to Figure 2. Therefore, Lui does not teach two claim limitations in claim 9, and cannot anticipate claims 9-21.

Thus, neither Liu nor Wenberg can anticipate the claims.

Applicants respectfully solicit withdrawal of all rejections, and allowance of the claims.

Respectfully Submitted,

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